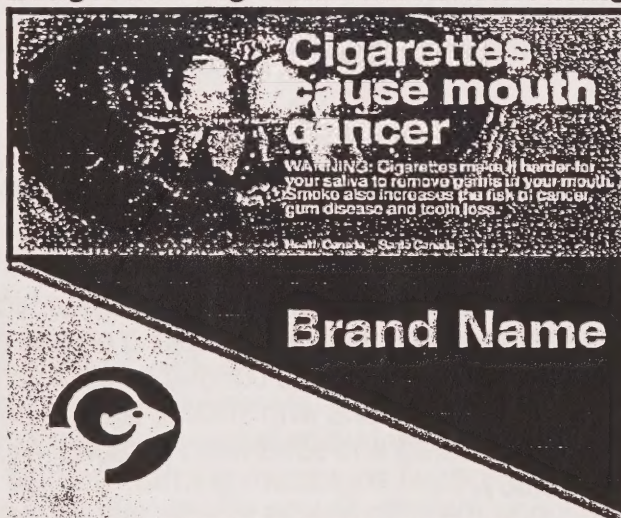The relative importance of
the size, content & pictures
on cigarette package warning
messages

The Relative Importance of the Size, Content & Pictures On Cigarette Package Warning Messages

Larger, Stronger Messages with Emotion Arousing Pictures

Are More Encouraging To Smokers To Stop & Non-Smokers Not To Start Smoking!

September 15, 1999
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Executive Summary

Warnings of the negative consequences of smoking have been printed on cigarette packages for many years. Since 1994, these messages, taking approximately 35% of the principal display surface of cigarette packages, have been presented as black words on a white background, or white words on a black background, with corresponding black or white border. The messages, i.e., 'Tobacco Smoke Can Harm Your Children', Cigarettes Cause Fatal Lung Disease', 'Cigarettes Are Addictive', 'Smoking Can Kill You', etc., have been presented alone without supporting evidence or picture illustrations on the package.

This study estimated the relative impact of:

1. Larger warning messages – specifically 50% or 60% of the principal display surface of cigarette packages.
2. Messages with stronger appeal to emotion and with greater information content.
3. Pictures added to warning messages to illustrate the hazard.
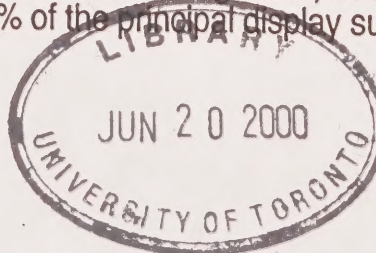4. The absence of trade-mark colours and logos.

ON:

A. Encouraging teen and adult smokers to stop smoking; AND,
B. Encouraging non-smoking teens not to start smoking.

A conjoint method of measurement was employed. This method has high external validity compared to other methods that rely on asking people direct questions about individual attributes. The study was conducted in Ontario and Quebec with three types of respondents – teens who smoke, teens who do not smoke and adults who smoke. Six hundred and seventeen persons, 417 teens and 200 adults, took part in the study.

The study also examined the relative importance of warnings with larger, stronger messages supported by pictures, compared to six other types of influence on one's thinking about smoking.

The study also investigated the impact of larger messages on trade-mark recognition by simulating the recognition on store shelves, of the 'regular brand' (smokers), and the 'most familiar brand' (non-smokers). Two sizes of warning messages were used in this simulation - the current message size, 35% of package surface and warnings covering 60% of the principal display surface of the cigarette package.

Summary of Findings:

1. Larger warning messages were more encouraging to stop / not start smoking for all sample groups (except teen smokers in Quebec only for the 50% size).

2. Packages with trade-mark colours and logos were more encouraging to stop / not start smoking for four of the six sample groups. Only for two of these four were differences beyond those expected by chance. This unexpected result is possibly a consequence of the inability of the research to present pictures of packages on which the trade-mark colours and logos were those of the smoker's 'regular brand' or the brand 'most familiar' to non-smokers.

3. Messages with strong emotional appeal were more encouraging to stop / not start smoking than messages of a factual or unemotional nature.

4. Pictures with warning messages were, on average, approximately 60 times more encouraging to stop / not start smoking than messages without pictures.

5. The relative importance of the four attributes is approximately.

	%
Message Content	51
Presence of a picture	29
Size	12
Trade-mark	8
	100%

6. These findings apply, with few exceptions, to all sample groups – teens vs. adult smokers, teen smokers vs. teen non-smokers, and in both Ontario and Quebec. It is concluded that the potential effect of larger, more strongly worded warning messages supported by emotion arousing pictures will have similar effects across different population segments in the two major regions of Canada.

7. Larger, more strongly worded warning messages supported by emotionally strong pictures will, at least initially, increase the relative influence of warning messages on cigarette packages on people's 'thinking about smoking', compared to other sources of influence such as a 'smoking related illness or death of a family member or acquaintance' or 'scientific reports of the hazards of smoking in the media'.

8. For 95% of smokers and 80% of non-smokers, the time taken to correctly recognize their 'regular brand' on store shelves, will not likely be affected by increasing the size of warning messages to 60% of the principal display surface of cigarette packages. For only @5% of smokers will Increasing the size of warning messages from 35% to 60% of the principal display surface of cigarette packages, initially increase the error rate of recognizing their 'regular brand'. But this effect will likely disappear with learning.

9. Overall, the effects of increasing the size and emotional content of warning messages on cigarette packages and including message enhancing pictures, has the potential, compared to the current warning messages, to encourage more smokers to stop smoking and deter more non-smokers from starting to smoke.

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1. Introduction

Warnings about the negative consequences of smoking have been printed on cigarette packages for many years. Since 1994, these messages, taking approximately 35% of the principal display surface of cigarette packages, have been presented as black text on white background, or white text on black background, with a corresponding black or white border. The messages, i.e., 'Tobacco Smoke Can Harm Your Children', 'Cigarettes Cause Fatal Lung Disease', 'Cigarettes Are Addictive', 'Smoking Can Kill You', etc., have been presented alone without supporting facts or picture illustrations. No evidence or descriptive facts have been provided, with the warning messages on the packages, in support of these assertions, nor have pictures been used – is 'a picture is worth a thousand words'?

I was asked to design and conduct a study to estimate the potential effects of proposed changes to warning messages on cigarette packages. The alternatives to be evaluated were the following:

- Increased proportion of the package devoted to the warning message.
- Messages with stronger emotional appeal and more information and facts with the messages.
- Add pictures to emphasize and enhance the message. And,
- Removal of trade-mark colours and logos from the cigarette package.

2. Study Objectives

After several iterations of exploration, development and discussion with the Office Tobacco Control, the following research objectives were adopted for this study.

    A. To estimate the relative impact / importance of:

        (a) size of health warning message;
        (b) presence / absence of trade-mark/trade dress;
        (c) nature / content of the warning message (from factual to emotional); and,
        (c) the effect of pictures with health warning messages;

            (on Cigarette Packages)

On:

        - **Teen** and **Adult SMOKER** judgements of the degree to which each warning message **configuration** would encourage them more TO STOP smoking; and,

        - **Teen NON-SMOKER** judgements of the degree to which each warning message **configuration** would encourage them more NOT TO START smoking.

B. To estimate the effect of larger, stronger warning messages with pictures, compared to other types of influences, on the perceived relative influence of warning messages on cigarette packages on one's thinking about smoking.

C. To estimate the effect of increasing the size of warning messages, on trade-mark / trade dress recognition, from 25% (35% with border) to 60% of the principal display surface of cigarette package.

3. Research Method

What is the most externally valid method for measuring the potential impact of proposed marketing – de-marketing actions/messages on the future behaviours of consumers? Contrary to popular practice by academic and practitioner researchers the most valid method is not asking consumers direct questions, regarding their evaluations / beliefs / attitudes / intentions for each individual attribute and level of attribute, of the proposed product / message, or by discussing them, attribute by attribute in transparent qualitative focus groups. Researchers typically rely on direct methods, asking transparent questions separately about specific individual attribute levels. Seldom do researchers ask people to make judgements similar to the judgements they make when they are in the marketplace or store looking at goods on the shelves. An extensive research literature documents the lack of external validity of direct, transparent, attribute by attribute questioning approaches typical of much marketing and consumer research. The following are exemplars of this research literature.

General Response Effects
    Sudman & Bradburn, 1974; Bradburn 1983.
Halo Effect
    Beckwith & Lehman, 1975;
Demand Effects
    Carlopio, Adair, Lindsay & Spinner, 1983; Glassman & Ford 1988;
    Shimp, Hyatt & Synder, 1991; Fitzmmons & Morwitz, 1996; Lim &
    Darley, 1997; Darley & Lim, 1998; Wolfe, 1998; Schman and
    Presser, 1981.
Self-Generated Validity
    Feldman & Lynch, 1988; Simmons Bickart & Lynch, 1993.

These are but a few samples from an extensive literature about measurement validity, available to marketing and consumer behaviour researchers. All of this literature points to the conclusion that direct questioning approaches lack external validity.

Bradburn (1983) identifies two distinct types of data. Type 1 data describes actual behaviour of individuals or groups. Type 2 data describes psychological states such as thoughts, feelings, beliefs, opinions, attitudes and intentions, that are not directly accessible to anyone but the respondent (and which may not even exist until the question is asked). Relying on Type 2 data, without corroborating Type 1 data is non sequitur, a misuse of evidence.

If direct questioning lacks external validity what externally valid research methods are available to estimate what consumers will actually do (not what they say they will do, when asked), when faced with larger, more specific warning messages

on cigarette packages, with pictures emphasizing the message and in the absence of trade-mark information? Two approaches are available.

1. Direct observation of the choices and behaviours of people. This is done by implementing the proposed action in a limited geographical area ("test marketing") and measuring, how consumers respond by unobtrusively measuring their actual behaviours[1].

2. Conjoint Measurement. Asking people, who know they are participants in research, to make judgements similar to the judgements they make in the marketplace.

Direct observation, if feasible, has the greatest external validity for estimating the effect of proposals on consumer behaviour. Unfortunately direct observation is seldom feasible because of time and cost considerations. So when time and money is in short supply, the researcher should turn to the next most externally valid method of measurement - Conjoint Measurement.

3.1 Conjoint Analysis

Conjoint measurement was developed to generate data with better external validity. Conjoint measurement is both a method of measurement and a method of analysis (Axelrod & Frendberg 1990). It is a multivariate technique used specifically to understand consumers preferences at the level of the whole product or service. It is based on the fact that consumers do not make separate judgements about each attribute and level of each attribute and then combine these judgements in a conscious aware calculus in order to arrive at overall judgements for each alternative. Rather, overall judgements are made by a Gestalt process, and usually on an affective rather than cognitively rational basis.

In Conjoint measurement the researcher first constructs exemplars of whole products or services by combining different levels of attributes into product exemplars. These product exemplars are then presented to respondents who provide only their overall evaluations of the product/service. Thus the researcher asks the respondent to perform a very realistic task - making choices or judgements about whole products.

Knowing the experimental design underlying the various exemplars presented to the respondent the researcher can then decompose these aggregate judgements to discover each respondent's utility (part worths), for each product attribute and

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[1] To try different combinations of message size, message content, with or without pictures, and with or without trade-mark colors and logos would require a large number of geographically separated test market areas, and several years to estimate the effect of each of the various variables – size, message content, pictures, and lack of trade-mark information.

4

each level of each attribute. This measurement approach avoids many of the subject artefacts and demand effects which characterize traditional survey based direct questioning approaches in which respondents are asked to evaluate each attribute level separately, and then the researcher combines these separate judgements to form estimates of the respondent's overall preferences.

Conjoint measurement and analysis was originally developed and applied mostly to the investigation of attribute utilities of real products. More recently, however, conjoint measurement has been extended to: intangible services; (Ostrom and Iacobucci 1995); store image (Amirani and Gates 1993); salesperson compensation (Weinberger 1993); negotiation in international business (Weiss 1993); litigation (Green and Srinivasan 1990); patient satisfaction in health care (Graf et al 1993); dental services (Chakraborty et al, 1993); and, State growth management (Bollens 1992). All of these applications involve the selling or marketing services or ideas. The research reported here extends conjoint measurement to investigate the relative importance / impact of different attributes of warning messages and cigarette packaging. This method was first employed in a similar fashion in the Plain Packaging studies conducted by Health Canada in 1994-95 (Expert Panel, 1995).

3.2 Using Pictorial Stimuli in Conjoint Measurement

Until 1985 the use of pictures or real products as stimuli in conjoint measurement was rare. In 1990 Green and Srinivasan reported that while profile cards with terse attribute level descriptions are the most popular stimulus presentation method, "Increasingly use of pictorial materials has been found". Wittink et al (1994), reported that nine percent of 956 conjoint projects conducted in Europe from 1986 - 1991, employed pictorial presentation of stimuli. Pictorial stimuli take many forms from photographic snapshots to video/film clips. Green and Srinivasan (1990), also reported that conjoint analysis is increasingly being applied with real physical products as stimuli. It is suggested that pictorial materials and real physical product prototypes expand the scope of conjoint analysis and enhance its external validity.

A search for published conjoint studies, since 1981, finds only nine reports in which different forms of pictorial stimuli - photographs, real products and computer produced CAD pictures were employed (Anderson 1987; Holbrook and Moore 1981; Loosschilder and Ortt 1994; Loosschilder et al 1995; Page and Rosenbaum 1987; DeBont 1992; Louviere et al 1987; Liefeld et al 1993; Expert Panel, 1995). Only Louviere et al, sought to determine if there were differences in the parameters of choice models derived from visual versus verbal stimuli. Little statistical difference was found for choice parameters developed from either type of stimuli. In spite of this finding, Louviere et al, and the authors of the other 8 investigations all conclude that whenever possible visual stimuli should be used, especially for depicting attributes involving design, styling and or aesthetic

properties of products, because of their greater inherent external validity. Loosschilder et al (1995) suggest three major reasons for using pictorial stimuli: (1) consumer evaluation of products will be more valid the more it resembles the evaluation or choice in the marketplace environment; (2) when a large number of attributes and attribute levels are involved consumers employ simplification strategies for making judgements and choices and employing gestalt-like approaches based on visual representations are often used (Boecker and Schweickl 1988); and, (3) the applicability of the additive paradigm, assumed in compositional and decompositional models, may differ between visual and verbal descriptions (Pavio 1971; Holbrook and Moore 1981). In addition, higher respondent involvement and motivation may be expected if the task is more interesting, convenient and less fatiguing, because of pictorial stimuli.

The forms of pictorial representations employed in previous research included photographic pictures, line drawings, and computer-aided design pictures. In these studies the visual and verbal stimuli were presented separately. Typically profile cards were used to present terse adjectival verbal descriptions of the product to be evaluated and the picture or drawing was provided separately. None of the studies reported in the literature employed computer administered conjoint measurement in which the verbal and visual stimuli were presented together, as suggested by Loosschilder et al 1995), (the one exception is the Canadian Plain Packaging Study (Expert Panel, 1995). In the current research, computer administered conjoint measurement, with joint use of verbal and pictorial stimuli were employed.

4. Conjoint Experiment Design (Objective A)

4.1 Attributes / Independent Variables

(a) Size of Warning Message (3 levels)

- Current Size – 35% (25% of principal display surface plus border = 35%)
- 50% of principal display surface – 50% available for brand name and trade-mark colours and logos.
- 60% of principal display surface – 40% available for brand name, and trade-mark colours and logos.

(b) Presence/Absence of Trade-mark (2 levels)

- Trade-mark colours and logos present on the package
- Plain Package – Only Brand Name, no trade-mark colours and logos on the package.

(c) The content / nature of the warning message: (4 levels)

- "This Year The Equivalent of a Small City Will Die From Smoking"
  "Warning: Smoking kills 45,000 Canadians a year. You could be number 45,001"
  Associated Picture: Bar Graph comparing the number of deaths per year from Murder, Alcohol, Car Accidents, Suicides and Tobacco.

  Represents a very factual message with a factual picture.

- "Choose Your Poison"
  "Warning: Cigarette smoke contains 50 cancer causing chemicals"
  Associated Picture: A collage of consumer products – pesticide, ammonia, paint, etc., with hazardous product warning labels visible.

  Represents a more personal message with an unemotional picture.

- "Smoking Kills Babies"
  "Warning: Smoking near babies can cause Sudden Infant Death Syndrome"
  Associated Picture: Baby lying on back with pained expression.

  Represents a strong emotion generating message with an emotion generating picture.

- "Cigarettes Cause Mouth Cancer"
  "Warning: Cigarettes make it harder for your saliva to remove germs in your mouth. Smoke also increases the risk of cancer, gum disease and tooth loss"
  Associated Picture: Picture of mouth with diseased gums and rotten teeth.

  Represents a weak factual message (mouth cancer does not get much public press), with an emotion arousing picture.

These four attribute levels permit analysis of the relative impact of messages ranging from those with a strong factual and public knowledge base to those with a weak factual and public awareness base. Combined with the picture present/absent variable they allow conclusions about the effects of non/emotional to emotion arousing pictures with each message.

(d) Picture Attribute (2 levels)

- No picture present with the warning message
- Picture present with the warning message.

This variable allows assessment of the impact of using pictures to enhance / complement health warning messages on cigarette packages.

Numbers of Package Stimuli Required

With 4 attributes, with 3, 2, 4 and 2 levels (respectively), a total of 48 stimuli cigarette packages images, both in English and French, were prepared for use in the conjoint experiment component of this study.

4.2 Conjoint Dependent Variables

Twelve pairs of the 48 possible packages were presented to respondents on the computer screen in words and in pictures. These pairs were selected by computer algorithm (See description of ACA method below).

a). Teen and adult smokers were asked (for each pair), "which package encourages you more to stop smoking, and how much more encouraging is it"?

b). Teen non-smokers were asked (for each pair), "which package encourages you more not to smoke and how much more encouraging is it"?

4.3 Conjoint Measurement Method and Process

Sensus TradeOff Software (Sawtooth Technologies Inc.), was employed for the conjoint measurement component of this research. Sensus TradeOff employs

Adaptive Conjoint Analysis (ACA Version 4, Sawtooth Software 1988), as its foundation and provides a graphical user interface for computerized interviewing. Example Images of the various attribute levels were created by scanning packages and from images provided by the Office of Tobacco Control and printing them on photographic quality paper for presentation to respondents.

Three components of the ACA TradeOff system were employed in this research.

(1) Preference ranking of each level of each attribute (four separate screens for ranking of the levels of each attribute);

(2) Degree of importance of each attribute compared to the others (four separate screens one for each attribute);

These were required only to allow the analytical algorithm within ACA to compute initial (prior) relative utility estimates which are required to choose the first pair of stimuli (packages) to present to the respondent in the pairs section.

(3) The pairs section: Twelve (12), pairs of cigarette packages were presented. The first pair (based on the ranking and importance responses), is selected by the computer algorithm to maximize its learning of the respondent's part worth utilities for each attribute of the pair and each attribute level. After the respondent indicates which package would encourage them more to stop/not-start smoking, the software re-calculates the respondents part worth utilities in order to select the next pair of packages which would maximize its learning of the respondent's utilities. The process was repeated until 12 pairs were presented and evaluated. On average each respondent was exposed to 20 to 24 of the 48 packages.

In the pairs section, since Sensus TradeOff is not able to show images representing the combination of the 4 attributes. Text descriptions of the two selected packages were provided on the computer screen and photographs of the two packages were placed just below the screen by the interviewer. In order to do this images of all 48 packages were prepared in digital form and then printed on photographic quality paper. A four digit code system was developed identify each of the 48 packages. This code system allowed the interviewer to quickly select the photographs of the two packages described in each pair, from a file box with all 48 photos, and then place them just below their descriptions on the computer screen. Appendix A, page 43, shows the appearance of a sample pairs stimulus condition with the file index box containing the photographs.

Respondents gave their judgement by clicking on a scale under each package description on the screen. They chose the package on the left or the package on the right as being the one which would encourage them more to stop / not-start smoking, and they indicated how much more encouraging it was by choosing one

of three levels from weakly to strongly (more encouraging than the other package).

After the respondent made their judgement the interviewer removed the two photographs and then placed the photos for the next pair of packages which by then were displayed on the screen.

While the reader might think the process was complicated, it was not. And we learned that the time taken by interviewers to place and remove photos had the advantage of slowing down respondents to make more considered judgements.

5. Other Measures

5.1 Ranking of Seven Key Influences on One's Thinking About Smoking (Objective B)

Another key measure was a ranking question which asked respondents to rank seven types of influence on one's thinking about stopping / not starting smoking (See Appendix D, page 46). This ranking question was administered twice, the first time in Part 1, before exposure to the larger, stronger warning messages with pictures, and then again in Part 3 after exposure to the larger, stronger warning messages with pictures. Change in the importance rank of warning messages, between the before and after measures, provides an estimate of the possible impact of the proposed larger, more specific and graphic warning messages on cigarette packages. The order of presentation of the seven types of influence was randomized.

5.2 Effect of Warning Message Size on Trade-mark Recognition. (Objective C).

Sensus Q&A computer interviewing software (Sensus Technologies Inc.), was used to collect information about the characteristics of respondents, to administer the ranking question, and to estimate the effects of a 60% warning message size on trade-mark recognition. The effect of warning message size on Trade-mark recognition was estimated in the following manner.

1. In the first section of the interview, smokers identified their 'regular' brand, the brand they smoke most often. Non-smokers were shown thumbnail pictures of 29 cigarette packages and asked to identify the brand most familiar to them.
2. In the third section of the interview, (after the conjoint measurements), respondents were first shown a collage of thumbnail images of 29 cigarette packages, with warning messages in the current 35% size (Collage 1 – see Appendix B, page 44). Smokers were asked to 'click on' their 'regular' brand as soon as they saw it. Non-smokers were reminded of the name of the brand they said was most familiar to them, and asked to 'click on' this most familiar brand as soon as they saw it.
3. On the next screen they were told they would again be shown the 29 packages with larger warning messages - 60% size was used (Collage 2 – See Appendix C, page 45). Again their task was to 'click on' their 'regular' / 'most familiar' brand as soon as they saw it.
4. The time taken to see and click on their 'regular' or 'most familiar' brand was recorded by the computer. Hence difference in the time taken to identify and click on the correct package, between the collage

with 35% sized warnings and 60% size warning messages, is an estimate of the effect of increasing the warning message size on trade-mark recognition and identification.

5. The size and arrangement of the package images on the screen was an approximation of the viewing size for packages when one is standing at the counter of the convenience store and looking at the cigarette packages at a distance of @10-15 feet distance.

6. The positional order of the images in both collage screens was randomized so that that the package images did not systematically appear in the same location within the matrix.

6. Execution

6.1 Computer Interview

The data was collected by computer interview. The interview had 3 sections. The first and third sections employed Sensus Q&A and for the Middle section the Sensus TradeOff software was employed. This all was programmed to be transparent to the respondent. To the respondents it appeared as one computer program with 3 sections. Appendix E, page 47, describes the structure and flow of the computerized interviews for each of the three types of respondents.

In the first section respondent demographics and smoking characteristics were measured. In addition, the first ranking of 7 possible sources of influence on one's thinking about smoking was taken. In the 2nd section of the interview the conjoint measurements were made. Finally in the 3rd section the 2nd ranking of the 7 sources of influence on one's thinking about smoking was made, followed by the brand recognition test.

6.2 Pre-testing

Initial pretests, during development of the programs and stimuli, were conducted with five staff member of the College of Social and Applied Human Science, University of Guelph. Then July 20, pretests were conducted with nine teenagers and 4 adults. These pre-tests allowed improvement of the measurements, wordings and procedures. A final pre-test was conducted July 30, with 3 teenagers, to confirm that the revisions were successful.

6.3 Translation

The English versions were developed first and the text sent to Environics Ltd, which provided translation to French. The French versions were then programmed and spell checked. Subsequently, on two occasions back-translations were made. In the first case Sandy Roberts, a professional translator (living in Guelph), read through the screens and back translated for the researcher. In the 2nd case, Michelle LeBlanc, also a professional translator (living in Guelph), read through the screens and back-translated. Minor revisions in French expression resulted from these back translations. Finally, during interviewer training in Montreal, the 5 French Interviewers provided by CROP, reported no errors, and made no recommendations for changes in French expression.

6.4 Sample Groups, Sizes, Recruitment and Interviewing Locations

Three sample groups were recruited.

1. Teens (12 – 20 years old), who smoke 7 or more cigarettes per week.
2. Teens (12 – 20 years old), who do not smoke.
3. Adults (21 – 65 years old), who smoke 10 or more cigarettes per day.

A total of 617 respondents participated in this study.

Teen smokers - 106 Ontario-English and 101 Quebec-French speaking
Teen non-smokers – 102 Ont.-English and 108 Que.-French speaking
Adults – 98 Ontario-English and 102 Quebec-French speaking

The interviews were conducted in the following locations.

Toronto Ontario - Environics Ltd. offices, Bloor St.
Mississauga Ontario - Info-Quest Research Corporation
Kitchener Ontario – Metroline Research Group
Montreal Quebec – CROP offices – Place D'Armes
Trois Rivieres - Best Western Hotel

Sample Recruitment

In Ontario, respondents were recruited, by Environics Ltd., using telephone and personal contact in public areas, (See Appendix F - Environics technical report).

In Quebec, respondents were recruited, by CROP, using personal contact in public areas (La Ronde, Shopping malls etc.). (See Appendix F – Environics technical report.)

Interviewer Recruitment and Training

In Ontario, Environics provided four attendants and one supervisor for data collection. In Quebec, CROP provided four French attendants and one supervisor.

Attendant instructions were prepared, and read by the attendants, prior to the training sessions. (See Appendix G, page 56, (English) and Appendix H, page 61, (French)). CROP translated the instructions for use in Quebec.

The researcher led one attendant through one of the versions of the computer interview, showing them how to select the correct versions of

programs, use the photograph index system and display the photographs etc., as the other attendants observed. The sequence and process of Instructions were provided, and tips on how to answer any questions respondents might ask.

Then each attendant, in turn practiced the attendant role while another of the attendants acted as the respondent while the researcher observed and provided guidance. This continued until all attendants were comfortable and practiced in their role and responsibility.

The field work went smoothly and without incident of respondent or interviewer confusion.

7. Data Handling and Analysis

Sensus Q&A and Sensus TradeOff software, create data files and provide a system to accumulate data from multiple interviewing computers into combined data files.

The data for each sample group was accumulated separately for each of the Q&A and the Conjoint (TradeOff) components. Thus 12 sets of data were created, 2 sets for these sample groups.

ETSMOKE – English Teen Smokers -
ETNOSMK – English Teen Non-Smokers
EASMOKE – English Adult Smokers
FTSMOKE – French Teen Smokers
FTNOSMK – French Teen Non-Smokers
FASMOKE – French Adult Smokers.

7.1 Q&A Data

Each of the Q&A data files were imported into SPSS for initial assignment of variable labels and computation of simple frequencies. Summary variables were created for the two ranking questions (seven influences on thinking about smoking). T tests were employed to compare the average ranking of warning messages on cigarette packages for the before and after measurements. The time data for the two collage screens were also combined into these data files.

7.2 Conjoint (TradeOff) Data

Initial part-worth utilities are calculated automatically in the interviewing module by ordinary least squares regression. Part worth utility values are provided for each of the attribute levels for the PRIORS section (the ranking and importance questions), the PAIRS section, and thirdly for the combination of the Priors and the Pairs. During pre-testing it became obvious that when respondents moved from the PRIORS section of the ACA interview (rankings and importance questions), to the PAIRS section that the reality of the pictures altered their initial judgements. For example in the text oriented PRIORS the presence of pictures with warning messages was not considered very important by many subjects. But when they saw the actual pictures in the PAIRS section, suddenly the reality of the pictures changed the respondents' judgements. For this reason, it was decided to rely solely on the utility values calculated from the PAIRS section of the interview, because of its higher external validity.

The ACA software keeps a record of the attributes and levels of each of the 12 pairs of package stimuli presented to each respondent and the respondents choice of which package would encourage them more to stop / not start smoking. In order to estimate part worth utilities soley from the PAIRS choices the six data files were sent to Sawtooth Software Inc. (Seqium Washington), for a new form of estimating part worth utilities from reduced experimental designs - Hierarchical Bayes estimation. Landmark articles by Allenby & Ginter (1995), and Lenk, DeSarbo, Green and Young (1996), describe the estimation of individual part worths using Hierarchical Bayes (HB) models.

In conventional (non-Bayesian) statistical analysis, we assume that our data are described by a particular model with specified parameters, and then we investigate to see if the data are consistent with those assumptions. In doing this we usually investigate the probability distribution of the data, given the assumptions embodied in our model's parameters. In Bayesian analysis, we turn this process around. We again assume that our data are described by a particular model. But in Bayesian analysis we investigate the probability distribution of the parameters, given the data. This approach is better than previous methods, since it can estimate reasonable individual part worths even with relatively little data from each respondent. However it is very computationally intensive. Recent advances in computer processing speed have made it possible to employ this method. In 1999 Sawtooth Software introduced a software module employing HB which is capable of handling small and medium sized data sets in a reasonable time. The software can estimate utilities for Choice-Based Conjoint, attribute-specific DCM or partial profile designs (the study reported here is a partial profile design). The strongest element of HB estimation is its ability to provide estimate of part worths given only a few choices by each individual. It does this by 'borrowing' information from other individuals. HB does this more effectively than any previously developed method such as 'Individual Choice Estimation – ICE (Johnson, 1997).

In this study the HB part worth utilities were estimated using only the information from the pairs section of the interview. The resulting HB part worth utilities were then 're-scaled' to facilitate interpretation. The 'Diffs' procedure was employed[2].

> "For each respondent…a constant is added to the utilities (part – worths) for each attribute, to set the least liked attribute level to zero. All utilities are scaled so that their sum is equal to 100 times the number of attributes. This means that for the "average attribute" the utilities sum to 100… Then these points utilities are re-scaled so that the differences between the highest and lowest levels of all attributes sum to 100 times the number of attributes. This is done by the DIFFS.exe program".

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[2] . ACA provides two forms of re-scaling part-worth utility values – points and difs. These re-scaling methods are described in the ACA manual.

Example – these are the re-scaled part worth utilities for respondent 2101

Size			Trdmrk condition		Message Content				Picture Condition	
35%	50%	60%	Trdmrk	Notrdmk	City	Poison	Baby	Mcancer	NoPict	Pict
0.000	30.416	29.064	25.684	0.000	0.000	93.410	84.082	183.576	0.000	160.324
Difference between Highest and Lowest part worth for each attribute										
	30.416		25.684			183.082			160.324	
Sum of the Differences = 100 times the number of Attributes = 400										

The part worth utilities, re-scaled in 'Diffs' form (for each level of each attribute), were imported into SPSS and combined with the respondent's Q&A data.

Within each sample group paired *t*-tests, were employed to determine the size of the difference between utility values that might be expected by chance. Since statistical tests are based on variance, the chance that a given value could have occurred at some level of chance, depends on the variance in the data as well as the sample size. Employing a series of selected paired comparison *t*-tests, at different levels of Diffs utility values (i.e., below 50, 50-100 and 100+), it was learned (by interpolation), that differences where the ratio of the larger Diffs value to the smaller Diffs value, (larger/smaller), Is greater than 1.5, are unlikely by chance, $\alpha = 0.05$. Thus a general rule of thumb is – if the ratio of the larger to the smaller value is greater than 1.5, the difference between two Diffs values not expected by chance. Similarly, ratios of 2.0 or greater are larger than could be expected by chance, $\alpha = 0.01$.

The data files for the three Ontario sample groups and the three Quebec sample groups, were combined into one file and analysis of between sample group similarity / difference was conducted. Similarly the data for all six sample groups was combined to conduct analyses of the similarity / difference between Ontario and Quebec.

Across sample groups and across Provinces, the Diffs utility values were compared using One Way Analysis of Variance, for each of the 11 attribute levels. This analysis revealed the degree of similarity or difference in relative importance of each attribute, which could not be expected by chance. The degree to which differences between sample groups and provinces is not expected by chance permits conclusions regarding the generalization of the findings to both the teen and adult populations and to the Quebec French and Ontario English populations.

8. Findings

8.1 Characteristics of the Sample Groups

Tables of the characteristics of the sample groups are presented in Table 1, page 38 – teens, and Table 2, page 40 - adults.

For this research the respondents should be representative of the defined populations – teen and adult smokers, and teen non-smokers, in Ontario and in Quebec. It was not feasible (time and cost), to enumerate these populations in order to be able to select a random sample. Thus a convenience sampling method was employed. Consequently no statistical claims can be made about the degree to which the samples of respondents selected are representative of these three defined populations. But on the other hand, there is no reason to suspect that the samples are not representative of these defined populations. The method of selection (See Appendix F, page 48), did not possess characteristics which would systematically bias the selected samples with respect to the subject matter of the research.

The characteristics of the teen samples possess sufficient representation of each sex, age, grade in school, and disposable income. It should also be noted that teen smokers in Ontario and Quebec possess similar characteristics with respect to the number of cigarettes they say they smoked in the last 7 days. Even brand preferences are similar between the Ontario and Quebec teens with the exception of Export A, which more popular among Quebec teen smokers and DuMaurier which is more popular among Ontario teen smokers. Teen non-smoker familiarity with brands of cigarettes, within each Province is similar to the regular brand smoked by the teen smokers.

The adult smoker sample in Ontario is a little high on males vs. females, and the percentages of older smokers is perhaps a bit low in both the Ontario and Quebec samples. The educational characteristics of both samples is reasonably wide. The Quebec sample has fewer higher income respondents than the Ontario sample, but employment status characteristics are similar for both samples. The reported smoking behaviours of both samples are similar except, Export A and Players have higher frequency as the regular brand in Quebec and Dumaurier has higher frequency as the regular brand in Ontario.

8.2 Relative Importance of Warning and Trade-mark Attributes

Table 3, reports the average Diffs utility values of all six sample groups, for the 11 attribute levels.

TABLE 3
Average Diffs Utilities – All Sample Groups

Interpretation rule of thumb - based on paired *t*-tests: Ratios of differences between larger/smaller Diffs values greater than 1.5 are not expected by chance, $\alpha = 0.05$. Ratios greater than 2.0 are not expected by chance, $\alpha = 0.01$. Example, the ratio, 27/13 = 2.08, is greater than expected by chance less than 1% of the time.

	Warning Msg. Size			Trade-mark		Message Content				Picture	
	35%	50%	60%	Trade Mark	No Trdm	City	Pois	Baby	Mouth Can.	No Pict	Pict
ETSmokers (N = 106)	13	27	29	11	11	76	53	143	129	0.0	140
EASmoke (N = 98)	9.6	25	37	37	22	50	64	158	156	1.3	105
ETNosmkrs (N = 102)	8.8	49	28	9.2	12	89	38	116	134	1.3	121
FTSmoke (N = 101)	25	16	28	26	12	66	39	158	129	3.7	113
FASmoke (N = 102)	7.7	30	25	15	10	73	72	172	143	3.1	99
FTNosmk (N = 108)	20	29	24	19	14	92	57	186	107	2.1	111

Question:
Smokers (Teens and Adults) -Which package ENCOURAGES YOU MORE to STOP smoking.
Non Smoking Teens – Which package ENCOURAGES YOU MORE TO NOT SMOKE

The pattern of perceived relative importance of the attributes and attribute levels, for encouraging these respondents to stop / not start smoking, is the same across all six sample groups (with only one exception).

1. Larger warning messages received higher part worth utility values in all sample groups, except teen smokers in Quebec. The average utility values for the 50% and 60% sizes of warning message are significantly higher than the values (except for Quebec Teens), than for the 35% size of warning message. The differences in average utility between the 50% and 60% size are, on average, less than the differences between the 35% size and the two larger sizes, and less than expected by chance. The differences between the 35% size and the two larger sizes, (except for teens in Quebec) are not likely by chance (*t* test). It is also apparent, in most cases that the 60% size provides little additional

encouragement to stop / not start smoking over the 50% size, (except for teen smokers in Quebec).

2. For trade-mark vs no trade-mark, the general pattern is that packages with trade-mark colours and logos received higher part worth utility values in four of the six sample groups. This result is puzzling, because it was expected that plain packages (without trade-mark colours and logos) would be more encouraging to stop / not start smoking. The research designer observed this pattern during the data collection process, and can only conclude, after discussion with respondents, that this particular aspect of the study design failed to adequately present the trade-mark images. The trade-mark images used in the study looked like this.

THIS YEAR, THE EQUIVALENT OF A SMALL CITY WILL DIE FROM SMOKING.
Warning: Smoking kills 45,000 Canadians a year. You could be number 45,001

Health Canada   Santé Canada

Brand Name
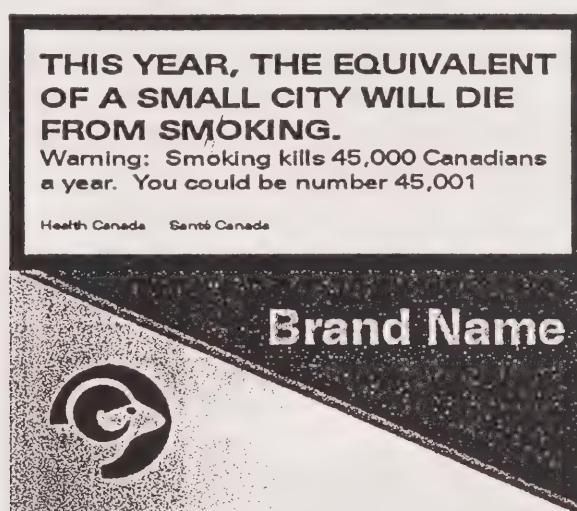
The non-trade-mark images looked like this

THIS YEAR, THE EQUIVALENT OF A SMALL CITY WILL DIE FROM SMOKING.
Warning: Smoking kills 45,000 Canadians a year. You could be number 45,001

Health Canada   Santé Canada

Brand Name
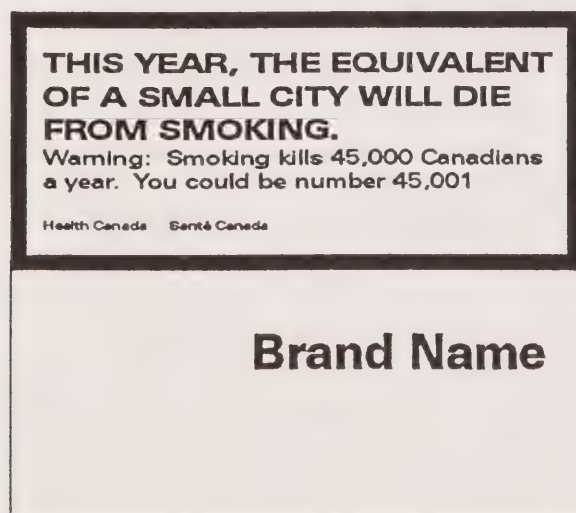
After discussion with respondents and the interviewers, it is believed that the researcher's choice of colours and logos for the trade-mark condition lacked reality. The blue/yellow triangles with the rams head logo, was perceived by most respondents as "ugly" and less attractive than the trade-mark colours and logos of their regular brand, or brand with which they were most familiar. Thus the colours and logo chosen to represent current trade-mark colours and logos lacked external validity failing to connote current brand trade-marks.

It might have been more realistic (externally valid), to show the trade-mark images using the colours and logos of the regular brands of smokers or the most familiar brands of non-smokers. Or at least, the images for the trade-mark might have been DuMaurier (the brand with the highest brand share among smokers, and most familiarity among non-smokers), or Players, the 2nd most familiar brand. The best procedure would have been to use the colours and logo of each respondent's regular or most familiar brand. This would require separate images for each of 33 brands.

For example if the images had been:

THIS YEAR, THE EQUIVALENT OF A SMALL CITY WILL DIE FROM SMOKING.
Warning: Smoking kills 45,000 Canadians a year. You could be number 45,001

Health Canada   Santé Canada

du MAURIER

Vs. this

THIS YEAR, THE EQUIVALENT OF A SMALL CITY WILL DIE FROM SMOKING.
Warning: Smoking kills 45,000 Canadians a year. You could be number 45,001

Health Canada   Santé Canada

Brand Name
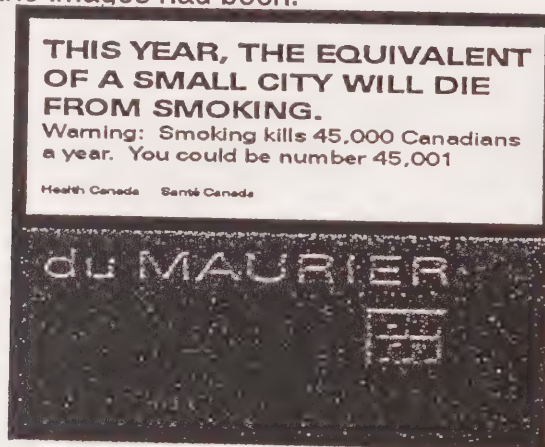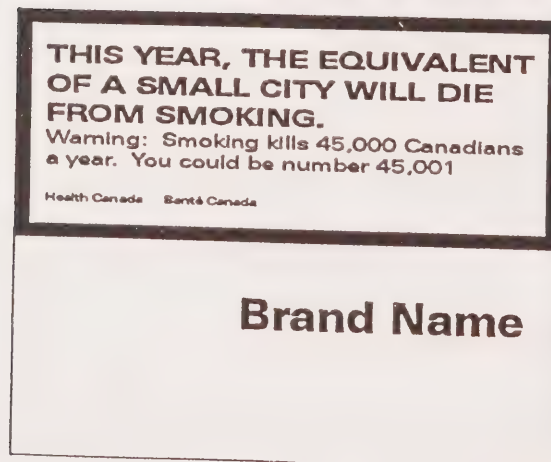
Or this:
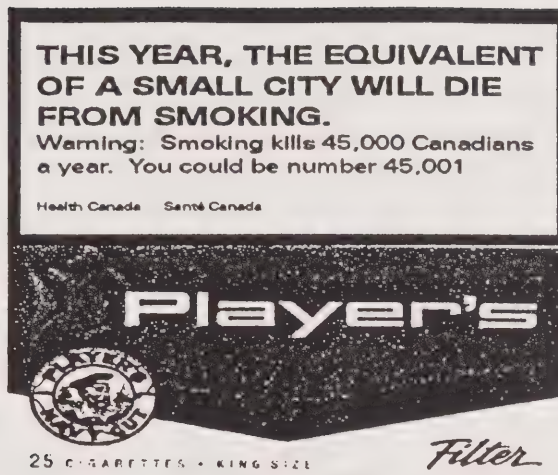
Vs. this
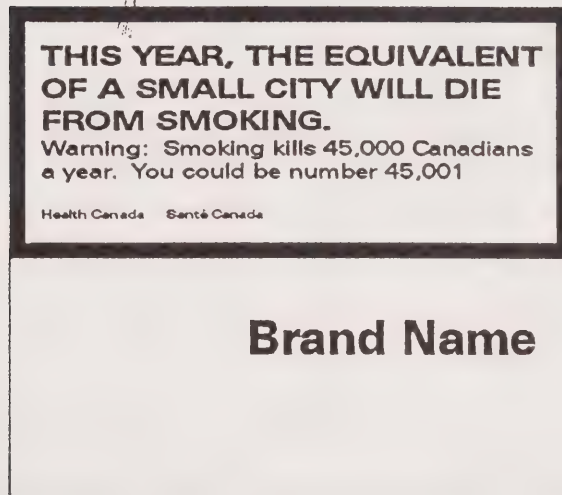
Had the smokers regular or non-smokers most familiar brand trade-mark logos and colours been used, the relative utility of trade-marked compared to non-trade-marked packages might have revealed that the non-trade-marked packages are more encouraging to stop / not start smoking. Unfortunately showing the trade-mark as the regular or most familiar brand was not feasible within the software and procedure capabilities of the research method.

Consequently, this component of the research is considered, by this author to have failed to validly estimate of the difference in relative utility between plain and trade-marked packages. The results reported here only suggest that plain packages would not encourage stopping / not starting smoker more **than the example trade-mark colours and**

logo used in this study as an exemplar to represent the
respondent's regular brand trade-mark.

3. For all sample groups, two messages - "smoking kills babies' and
'smoking causes mouth cancer' - received higher part worth utilities than
the other two messages - 'this year the equivalent of a small city will die
from smoking' and 'choose your poison". The first two messages appeal
more to affect and emotion, while the latter two appeal more to reason.
The differences between the part worth utilities of the first two and the
latter two messages are generally greater than could be expected by
chance.

4. For all sample groups the presence of a picture with the warning
message received much higher part worth utilities than when the
messages relied solely on words. The ratios between the Diffs values for
the picture vs. no picture condition are, on average, a ratio of 60 to 1.
Pictures with warning messages have a major impact on which package
would encourage more to stop / not start smoking.

5. The average relative importance of the four attributes (adjusted for the
number of levels within each attribute), across all levels, and across all
study groups are the following.

	%
Message Content	51
Picture Condition	29
Size	12
Trade-mark	8
	100%

The content of the message has highest impact on respondent
perceptions of what would encourage them more to stop / not start
smoking, followed by picture presence, warning message size and lastly
trade-mark condition. These overall ratios under-represent the importance
of pictures, because it is also clear from the data that the No-Picture
condition has almost zero utility compared to the Picture condition.

8.3 Comparison of Conjoint Tradeoff Results, Across Sample Groups

Analysis of Variance with post-hoc comparisons of means was used to compare
part worth Diffs utility values, for each attribute level, between sample groups
within and between Provinces. The focus of these analyses is to compare the
utility values provided by:

1. Teens – Smokers vs. Non-Smokers
2. Smokers – Teens vs. Adults
3. Residents of Ontario vs. Residents of Quebec

Table 4 summarizes the ANOVA results comparing part worth Diffs utility values for each attribute level between the three Ontario Sample Groups.

TABLE 4
Comparing Ontario (English) Sample Groups – Diffs Values
Statistically Significant Differences (.01)

	Teens Smokers Vs. Non-Smokers			Teen Smokers Vs. Adult Smokers		
	Mean Diffs	Is difference larger than expected by chance?	Mean Diffs	Mean Diffs	Is difference larger than expected by chance?	Mean Diffs
35% Warning Size	-	NO	-	-	No	-
50% Warning Size	27.7	YES	48.6	-	No	-
60% Warning Size	-	NO	-	-	No	-
Trade-mark on Package	11.4	YES	23.9	11.4	YES	22.0
No Trade-mark – Plain	-	NO	-	-	NO	-
Small City will Die	-	NO	-	-	NO	-
Choose Your Poison	-	NO	-	-	NO	-
Smoking Kills Babies	-	NO	-	-	NO	-
Smoking Causes Mouth Cancer	-	NO	-	129.0	YES	156.0
No Picture with Message	-	NO	-	-	NO	-
Picture with Message	-	NO	-	139.8	YES	105.2

Comparing teen smokers and non-smokers statistically significant differences occurred for only 2 of the 11 attributes. Non-smoking teen average part worth utilities for the 50% size package and the trade-mark condition were significantly larger than the average part worth utility of the teen smokers. It must be noted, however, that larger warning messages are significantly more encouraging for both smoking and non-smoking teens. So this difference means that larger packages are even more encouraging to non-smoking teens than they are to teen smokers.

Comparing teen and adult smokers, statistically significant differences occurred for 3 of the 11 attributes. Adult smoker average part worth utilities were significantly higher for the trade-mark condition and the message 'smoking causes mouth cancer'. Conversely adult smoker average part worth utility for the presence of pictures was significantly lower than for teen smokers. Yet it must be

remembered that all respondents found the pictures much more encouraging than the no-picture condition.

Table 5 summarizes the ANOVA results comparing Diffs values for each attribute level between the three Quebec sample groups.

TABLE 5
Comparing Qubec (French) Sample Groups – Diffs Values
Statistically Significant Differences (.01)

	Teens Smokers Vs. Non-Smokers			Teen Smokers Vs. Adult Smokers		
	Mean Diffs	Is difference larger than expected by chance?	Mean Diffs	Mean Diffs	Is difference larger than expected by chance?	Mean Diffs
35% Warning Size	-	NO	-	25.2	YES	7.7
50% Warning Size	15.8	YES	29.6	15.8	YES	29.9
60% Warning Size	-	NO	-	-	No	-
Trade-mark on Package	-	No	-	26.2	YES	14.9
No Trade-mark – Plain	-	NO	-	-	NO	-
Small City will Die	-	NO	-	-	NO	-
Choose Your Poison	-	NO	-	38.8	YES	71.2
Smoking Kills Babies	-	NO	-	-	NO	-
Smoking Causes Mouth Cancer	-	NO	-	-	NO	-
No Picture with Message	-	NO	-	-	NO	-
Picture with Message	-	NO	-	-	NO	-

Comparing teen smokers with teen non-smokers statistically significant difference in average part worth utilities occurred for only 1 of the 11 attributes. As in Ontario, the 50% size warning message was more encouraging for teen non-smokers than for teen smokers.

Comparing teen and adult smokers statistically significant differences in average part worth utilities occurred for 4 of the 11 attributes. The 35% size was more encouraging for the teen than the adult smokers. Conversely the 50% size was more encouraging for the adult smokers than the teen smokers. The trade-mark condition was more encouraging for the teen smokers than the adult smokers (did they consider it less attractive than their current brand?). Finally, the 'Poison A Souhait' message was more encouraging for adult smokers than teen smokers.

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Table 6 summarizes the ANOVA results, comparing Ontario vs. Quebec respondents.

TABLE 6
Comparing Provinces Ontario vs. Quebec – Diffs Values
Statistically Significant Differences (.01)

	Ontario	Is difference larger than expected by chance?	Quebec
35% Warning Size	10.4	YES	17.6
50% Warning Size	33.7	YES	25.2
60% Warning Size	-	NO	-
Trade-mark on Package	-	NO	-
No Trade-mark – Plain	-	NO	-
Small City will Die	-	NO	-
Choose Your Poison	-	NO	-
Smoking Kills Babies	-	NO	-
Smoking Causes Mouth Cancer	139.4	YES	125.9
No Picture with Message	-	NO	-
Picture with Message	-	NO	-

Statistically significant differences between average part worth utilities occurred for only 3 of the 11 attribute levels. The 50% warning message size was significantly more encouraging for Ontario respondents and the 35% size was significantly more encouraging for Quebec respondents. It must be noted, however, (with the exception of the Quebec teen smokers), that the 50% and 60% size warning messages were more encouraging than the 35% size. Finally, the message, 'Smoking Causes Mouth Cancer', was more encouraging in Ontario than in Quebec. For all other attribute levels the differences in the average part worth utilities were not greater than expected by chance.

8.4 Overall Conclusions of Conjoint / Tradeoff Findings

The pattern of perceptions regarding the levels of attributes which encourage MORE to stop / not start smoking are very consistent across smokers / non-smokers, teens / adults and between Provinces. Few differences are found between teens (smokers / non-smokers), between smokers (teen / adult), or between residents of Ontario and Quebec. Based on the conjoint judgements of these 617 respondents, larger warning messages, (50% will do), which appeal to affect / emotion, supported by strong pictures, are more encouraging (than the current messages), for smokers to stop smoking and non-smokers not to start smoking. This conclusion applies regardless of smoking status, age, or province of residence.

9. Importance of Warning Messages Before and After Exposure to the Larger, Stronger, Messages with Pictures

Table 7 summarizes the importance ranking of Warning Messages on cigarette packages as an influence on thinking about smoking, before and after exposure to the proposed larger, stronger, messages with pictures.

Table 7
Ranking of Warning Messages as an Influence on One's Thinking About Smoking – Before and After Exposure to The Larger, Stronger Messages with Pictures.
(The Rank Values were transposed: the value 7 = 1st rank and the value 1 = 7th rank : THUS higher means indicate higher avg. rank)
(Mean, Std. Dev. And Frequency Count)

	Etsmoke; N = 106		Etnosmk; N = 102		Easmoke; N = 98	
	Before	After	Before	After	Before	After
Mean	2.9	4.1	3.3	4.3	3.0	4.5
Std. Dev.	1.5	2.0	1.7	1.8	1.75	2.0
	Paired Comparison t-value = 5.76 2-tail Sig. = 0.000		Paired Comparison t-value = 5.21 2-tail Sig. = 0.000		Paired Comparison t-value = 6.46 2-tail Sig. = 0.000	
1st Rank	1	16	4	14	5	21
2nd	4	17	11	18	6	19
3rd	14	15	9	16	8	8
4th	16	13	20	18	14	13
5th	19	16	21	17	21	19
6th	32	15	22	10	20	8
7th	20	14	15	9	24	10
	Ftsmoke; N = 101		Ftnosmk; N = 102		Fasmoke; N = 108	
	Before	After	Before	After	Before	After
Mean	2.4	4.3	2.6	4.3	2.4	3.9
Std. Dev.	1.5	2.0	1.6	1.8	1.5	2.1
	Paired Comparison t-value = 9.56 2-tail Sig. = 0.000		Paired Comparison t-value = 8.26 2-tail Sig. = 0.000		Paired Comparison t-value = 6.47 2-tail Sig. = 0.000	
1st Rank	1	16	3	14	2	17
2nd	4	19	3	21	3	14
3rd	6	14	10	14	6	8
4th	7	17	11	18	7	13
5th	20	14	18	21	21	18
6th	27	9	35	13	27	15
7th	36	12	28	7	36	17

For all respondent groups the average ranking of the influence of 'warning messages on cigarette packages', compared to the six other influences on one's thinking about smoking (See Appendix, D page 46), increased by an amount greater than expected by chance. The average rank, across all respondent groups before exposure to the larger, stronger messages with pictures, was 2.77 out of 7. After exposure the average of the 6 groups was 4.24 out 7. This is an increase of 1.5 ranks out of 7.

It can also be concluded from these results, that the immediate impact of larger, stronger warning messages with pictures, on one's thinking about smoking would be strong. Three influences which would still be perceived to be more influential than even larger, stronger messages with pictures, are: "A smoking related illness or death of a family member or acquaintance", "Knowledge of the economic and social costs of smoking to society (deaths, health costs, etc.)" and, "Scientific reports of the health hazards of smoking on T.V. and Newspapers".

The potential longer term impact of larger, stronger warning messages with pictures, can not be addressed by this research. But it is likely that the impact would be greater than the long term impact of the current warning messages.

10. Trade-mark Recognition

Table 8 reports the average time taken to visually locate and 'click on' their "regular" (smokers), or "most familiar" (non-smokers), brand in the two collage screens. In Collage 1 the 29 packages were shown with the warning message in the current size – 35% of the package surface. In Collage 2, the 29 packages were shown with the warning message at 60% of the package surface. (See Appendix B, page 44, and Appendix C page 45, for example pictures of the two collage screens)

TABLE 8
Average Seconds to Identify
Regular or Most Familiar Brand:
Warning Message 35% vs. Warning Message 60% of Package Surface

Sample Group	Collage 1 (35% Size) Avg. seconds	Collage 2 (60% Size) Avg. seconds	Difference (seconds)	Percent with Error *
ETSmoke	5.38	5.33	- 0.05	4.7%
EASmoke	6.23	6.55	+0.33	3.1
ETNosmk	5.51	5.88	+0.37	22.0
FTSmoke	7.54	6.07	-1.48	6.9
FASmoke	8.72	6.98	-1.74	5.9
FTNosmk	5.49	5.10	-0.39	18.5

* Percent with error: This variable reports the percentage of respondents who did not click on the same brand in both the 1st and 2nd Collage screens. The error rate is higher for non-smoking teens. This sample group was asked to locate and click on the brand that was MOST FAMILIAR. They were reminded of the brand name they said in Part 1 was the MOST FAMILIAR, in the screen just prior to each collage. It is possible that some of these 22% (English) and 18.5% (French) respondents simply clicked on a brand that was familiar, rather than the brand they indicated in Part 1 to be their MOST familiar brand

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Some respondents did not handle this task well. They were inconsistent in that they clicked on a different brand in the 2nd collage screen and not the brand they had clicked on in the '1st collage screen. Non-smokers were more likely to be inconsistent. The average 'error' rate for smokers was 5.2%. Thus, assuming all smokers tried hard to locate their regular brand in the 2nd collage, these results indicate that the 60% warning message may lead to a slight increase (@5%), in incorrect initial recognition of their regular brand on the store shelf.

Most interesting in these results is the finding that for smokers there is little difference in the time taken to correctly identify and click on the regular or most

familiar brand (for 95% of the smokers and 80% of the non smokers), between the 35% and 60% size warning labels. In fact in 4 of the six sample groups the time taken was less for the 60% size warning messages. Since the order of the brands in the collages were randomized, and the positions of brands changed from Collage1 to Collage 2, this lesser time taken for the 2nd collage, cannot be a 'positional learning effect' – i.e., the respondent could not look at the same position in the 2nd collage and expect to find their regular / most familiar brand in the same position within the matrix. But there may have been a 'task learning effect'. That is the more one repeats a visual acuity task, the quicker they become.

But in real life, standing at the counter and identifying ones regular brand, in order to point it out to the clerk, is a visual acuity task which one learns and becomes better at overtime. The data from this simulation suggests that increasing the size of warning messages from 35% to 60 is unlikely to increase, in the long run, the rate of incorrect brand identifications, or increase the time required to visually identify one's regular brand on the store shelf.

11. SUMMARY / CONCLUSIONS

Subject to the caveats which must be applied to all research, in which respondents know they are under the microscope, the findings and conclusions suggested by these results are the following.

Larger warning messages were more encouraging to stop / not start smoking for all sample groups (except teen smokers in Quebec for the 50% size).

Packages with Trade-mark colours and logos were more encouraging to stop / not start smoking in four of the six sample groups (only two of these four were differences beyond those expected by chance). This result unexpected result possibly is a consequence of the inability of the research to present pictures of packages on which the trade-mark colours and logos were those of the smoker's 'regular brand' or the brand 'most familiar' to non-smokers.

Messages with strong emotional appeal were more encouraging to stop / not start smoking than messages of a factual or unemotional nature.

The presence of a picture with the warning message was greatly more encouraging to stop / not start smoking.

The average relative importance of the four attributes is approximately the following.

	%
Message Content	51
Presence of a picture	29
Size	12
Trade-mark	8
	100%

These findings apply (with few exceptions), to all sample groups – teens vs. adult smokers, teen smokers vs. teen non-smokers, and in both Ontario and Quebec. Thus larger, more strongly worded warning messages supported by emotion arousing pictures will have similar effects across different population segments in both Ontario and Quebec.

Larger, more strongly worded warning messages supported by emotionally strong pictures will initially increase the relative influence of warning messages on cigarette packages on peoples 'thinking about smoking', compared to other sources of influence such the 'smoking related illness or death of a family member or acquaintance' or 'scientific reports of the hazards of smoking in the media'. This research cannot speak to the long term effects.

For 95% of smokers and 80% of non-smokers, the time taken to correctly recognize their 'regular brand' on store shelves, will not likely be affected by increasing the size of warning messages to 60% of the principal display surface of cigarette packages. For only @5% of smokers will Increasing the size of warning messages from 35% to 60% of the principal display surface of cigarette packages, initially increase the error rate of recognizing their 'regular brand'. But this effect will likely disappear with learning.

Overall, the effects of increasing the size and emotional content of warning messages on cigarette packages and including message enhancing pictures, has the potential to encourage more smokers stop smoking and deter more non-smokers from starting to smoke. This research cannot speak to the number of smokers who might be encouraged to stop or the number of non-smokers who would be encouraged not to start smoking.

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TABLE 1

Characteristics of the Teen Sample Groups
Count (%)
(Due to rounding % may not total 100)

	ETSMOKE N = 106	FTSMOKE N = 101	ETNOSMK N = 102	FTNOSMK N = 108
Smoking Status				
Non-Smoker	0	0	95 (93%)	101 (94%)
Smoker	106 (100%)	101 (100%)	0	0 (0)
Ex-smoker	0	0	7 (7)	7 (6)
GENDER				
Male	66 (62%)	43 (43%)	55 (54%)	55 (51)
Female	40 (38)	58 (57)	47 (46)	53 (49)
LANGUAGE at HOME				
English	97 (91%)	1 (1%)	90 (88%)	7 (6%)
French	2 (2)	99 (98)	0	97 (90)
Other	7 (7)	1 (1)	12 (12)	4 (4)
AGE				
12 Years	0 (0)%	0 (0%)	2 (2%)	0 (0%)
13	1 (1)	11 (11)	13 (13)	11 (10)
14	7 (7)	19 (19)	19 (19)	17 (16)
15	15 (14)	27 (27)	18 (18)	24 (22)
16	16 (15)	9 (9)	15 (15)	14 (13)
17	23 (22)	8 (8)	13 (13)	13 (12)
18	16 (15)	12 (12)	9 (9)	11 (10)
19	17 (16)	8 (8)	9 (9)	6 (6)
20 Years	11 (10)	7 (7)	4 (4)	12 (11)
GRADE in SCHOOL				
5	0	3 (3%)	1 (1%)	1 (1%)
6	0	4 (4)	0 (0)	1 (1)
7	0	16 (16)	5 (5)	6 (6)
8	5 (5%)	14 (14)	21 (21)	22 (20)
9	11 (10)	22 (22)	20 (20)	18 (17)
10	26 (25)	13 (13)	17 (17)	17 (16)
11	23 (22)	11 (11)	13 (13)	13 (10)
12	22 (21)	8 (8)	14 (14)	11 (10)
13	7 (7)	1 (1)	6 (6)	4 (4)
Univ/College	12 (11)	9 (9)	5 (5)	15 (14)

	ETSMOKE N = 106	FTSMOKE N = 101	ETNOSMK N = 102	FTNOSMK N = 108
DISPOSABLE INCOME				
Less $10 / wk	8 (8%)	10 (10%)	14 (14%)	22 (20%)
$10 - $25 / wk	31 (29)	45 (45)	40 (40)	43 (40)
$26 - $50 / wk	24 (23)	25 (25)	21 (21)	18 (17)
$51 - $100 / wk	21 (20)	11 (11)	12 (12)	14 (13)
More than $100 / wk	22 (21)	10 (10)	15 (15)	11 (10)
Number smokers known: Family or Friends				
None	6 (6%)	5 (5%)	14 (14%)	17 (16%)
One	17 (17)	10 (10)	33 (32)	24 (22)
Two	30 (28)	25 (25)	21 (21)	32 (30)
Three	28 (26)	22 (22)	10 (10)	20 (19)
Four	11 (10)	20 (20)	15 (15)	11 (10)
Five	9 (9)	12 (12)	7 (7)	1 (1)
Six	2 (2)	6 (6)	2 (2)	3 (3)
Seven	2 (2)	1 (1)	0	0
No. of Cigarettes smoked – last 7 days				
More than 20 / day	21 (20%)	17 (17%)	NA	NA
10 – 20 / day	50 (47)	64 (64)		
5 – 9 / day	29 (27)	16 (16)		
Less than 5 / day	6 (6)	4 (4)		
Regular / Most Familiar Brand				
DuMaurier	57 (54%)	34 (34%)	65 (64%)	51 (47%)
Players	17 (16)	21 (21)	13 (13)	14 (13)
Dunhill	8 (8)	0	1 (1)	2 (2)
Belmont	0	0	4 (4)	0
Belvedere	6 (6)	1 (1)	0	0
ExportA	4 (4)	36 (36)	0 (0)	19 (18)
Export	0	0	2 (2)	5 (5)
Other	14 (13)	9 (9)	17 (17)	17 (15)

TABLE 2
Characteristics of the ADULT Sample Groups
Count (%)
(Due to rounding % may not total 100)

	EASMOKE N = 98	FASMOKE N = 102
SMOKING STATUS		
Non-Smoker	0	0
Smoker	98 (100%)	102 (100%)
Ex-Smoker	0	0
GENDER		
Male	61 (62%)	48 (47%)
Gender	37 (38)	54 (53)
LANGUAGE at HOME		
English	92 (94%)	5 (5%)
French	2 (2)	95 (93)
Other	4 (4)	2 (2)
AGE		
21 – 29 years	48 (49%)	33 (32%)
30 – 39	10 (10)	34 (33)
40 – 49	29 (30)	24 (24)
50 - 59	9 (9)	11 (11)
60 or more years	2 (2)	0
EDUCATION		
Some Elementary	3 (3%)	11 (11%)
Completed Elementary	1 (1)	0
Some Secondary	12 (12)	11 (11)
Completed Secondary	24 (24)	35 (34)
Some College / Tech.	28 (29)	26 (26)
Some University	17 (17)	12 (12)
Completed University	8 (8)	11 (11)
Post Graduate Study	5 (5)	6 (6)
Living Status		
Married / Cohabiting	40 (41%)	27 (27%)
Single / Never Married	49 (50)	55 (54)
Divorced / Widow(er)	9 (9)	19 (19)
Widow / Widower	0 (0)	1 (1)

	EASMOKE N = 98	FASMOKE N = 102
HOUSEHOLD INCOME		
Less than $15,000	26 (27%)	35 (34%)
$15 to 29K	22 (22)	34 (33)
$30 to 44K	24 (25)	15 (15)
$45 to 59K	9 (9)	11 (11)
$60 to 79K	4 (4)	4 (4)
$80 to 99K	8 (8)	1 (1)
$100 to 199K	3 (3)	1 (1)
$120K or more	2 (2)	1 (1)
EMPLOYMENT STATUS		
Homemaker	4 (4%)	8 (8%)
Working – Full Time	54 (55)	49 (48)
Working – Part Time	15 (15)	13 (13)
Unemployed	7 (7)	7 (7)
Retired	1 (1)	1 (1)
Student	13 (13)	19 (19)
Other	4 (4)	5 (5)
Number smokers known: Family or Friends		
None	6 (6%)	10 (10%)
One	22 (22)	20 (20)
Two	17 (17)	17 (17)
Three	22 (22)	21 (21)
Four	14 (14)	16 (16)
Five	7 (7)	13 (13)
Six	8 (8)	3 (3)
Seven	2 (2)	2 (2)
Ever Quit Smoking for a time?		
Yes	54 (55%)	53 (52%)
No	44 (45)	49 (48)
No. of Years Smoked		
Less than 10 years	35 (36%)	28 (28%)
10 – 19	31 (32)	33 (32)
20 – 29	26 (27)	31 (30)
30 – 39	4 (4)	9 (9)
40 – 49	1 (1)	0 (0)
50 or more years	1 (1)	1 (1)

Appendix A:
Examples of Pairs Stimulus Condition
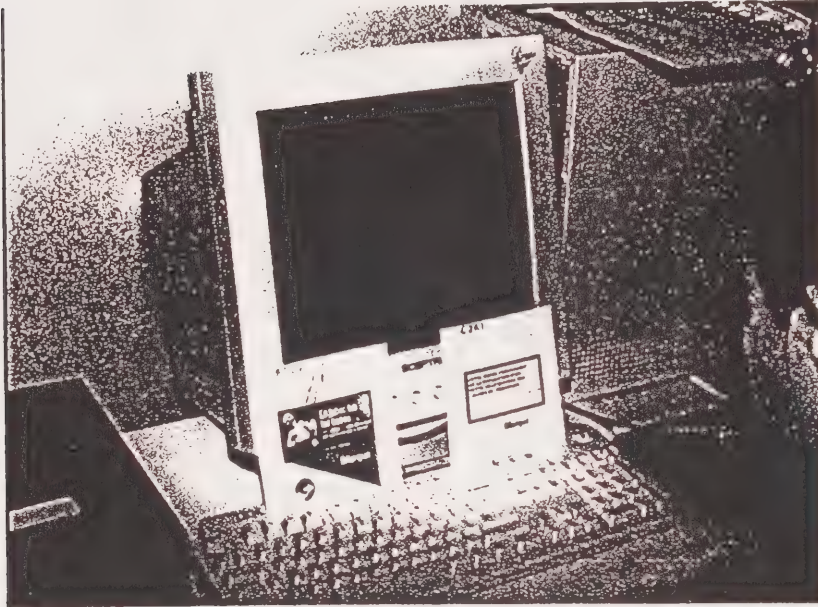
	EASMOKE N = 98	FASMOKE N = 102
Regular Brand		
DuMaurier	47 (48%)	31 (30%)
Players	14 (14)	26 (26)
Matinee	13 (13)	1 (1)
Benson & Hedges	7 (7)	4 (4)
ExportA	4 (4)	12 (12)
Other Brands	13 (13)	17 (17)

Appendix B:
Picture of Collage 1
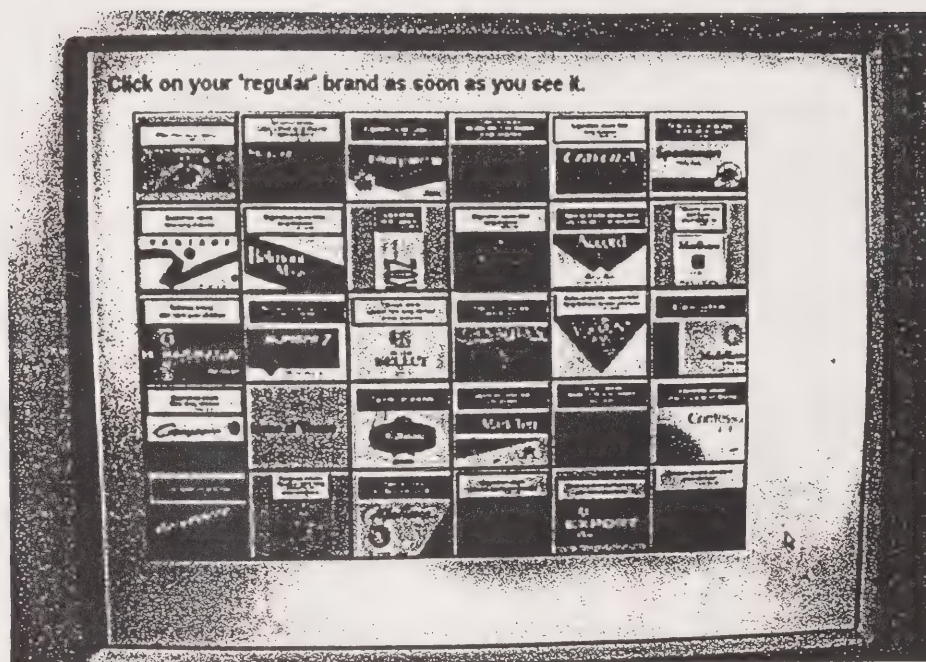
Appendix C:
Picture of Collage 2
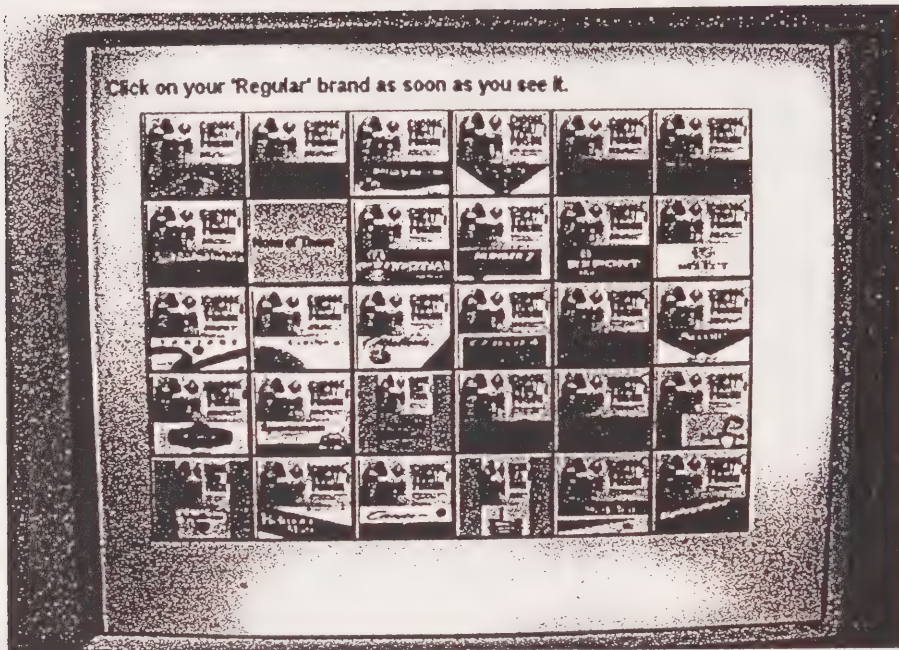
Appendix D:
Seven Influences on One's Thinking About Smoking.

The following seven influences on one's thinking about smoking were ranked twice. The first time in Part 1, before exposure to the larger, stronger, warning messages with pictures and the second time in Part 3, after exposure to the larger, stronger, warning messages with pictures.

The cost of smoking (Price of Cigarettes)

Your best friends don't smoke

Warning Messages on cigarette packages

Scientific reports of the health hazards of smoking on T.V. and Newspapers

Anti-smoking advertisements on T.V. and in Magazines and Newspapers

A smoking related illness or death of a family member or acquaintance

Knowledge of the economic and social costs of smoking to society (deaths, health costs, etc.)

Appendix E: Structure and Sequence of Measurements

ETSMOKE/FTSMOKE	ETNOSMK/FTNOSMK	EASMOKE/FASMOKE
PART 1		
Cover - Title and Attribution		
Introduction – Purpose of Research		
Smokestatus		
Nofit (Control for correct assignment of respondent to version)		
NA	Exsmoker (Had they ever smoked?)	NA
Gender		
Language		
Age (12-20)	Age (12-20)	Age (21-65)
Grade (in school)	Grade	Education
Dincome (disposable)	Dincome (Disposable)	Hincome (household)
-	-	Livstatus (marital status)
-	-	Empstatus (employment)
Whosmoke (Identify family and acquaintances who smoke)	Whosmoke	Whosmoke
Last 7 (no. of cigarettes smoked last 7 days.	Experiment? (Have they tried smoking?)	Everquit (ever quit smoking?)
-	Smokehis(tory)	Yearsmoke
Brands smoked last 6 mths	Most Familiar Brand	Brands smoked last 6 mths
Regular brand	-	Regular brand
Rank1 (7 influences)	Rank1 (7 influences)	Rank1 (7 influences)
Pause (new instructions)	Pause	Pause
PART 2		
LinkACA		
Rank Importance (4 screens, one for each attribute)		
Importance Judgements (4 screens, one for each attribute)		
PAIRS SECTION – (12 Screens - 12 pairs of packages with photos)		
Congratulations and Introduction to Part 3		
PART 3		
Introduction to Rank 2		
Rank2 (7 influences)		
Intro2		
Collage1 (35% size message) Locate & Click on Regular/most familiar brand		
Intro3		
Collage2 (60% size message) Locate & Click on Regular/most familiar brand		
Thanks		

Appendix F:
Environics Technical Report

Environics Research Group Limited was retained to administer components of the study, including recruiting samples of respondents to central location facilities, according to specifications, providing suitable facilities in the chosen locations, administering and interviewing subjects (computer-administered interviews with interviewer assistance), provide incentives, and translation (English to French).

The questionnaire required between 15 and 20 minutes to administer.

The sample specifications were:

- 200 teens, 12-20, who smoke regularly;
- 200 non-smoking teens, 12-20;
- 200 adult smokers 21-65.

The locations of respondents included:

- Toronto Central (Target 100);
- Toronto Suburban (Target 100);
- Kitchener (Target 100);
- Montreal Central (Target 100);
- Montreal Suburban (Target 100);
- Trois Rivieres (Target 100).

For each location, equal numbers of each sample group were recruited. The Ontario interviews were conducted in English; the Quebec interviews were conducted in French.

Environics administered the fieldwork. Our Quebec partner firm, CROP, was retained to administer the Quebec portion.

Results of Ontario Interviewing

	Toronto	Mississauga	Kitchener	Total
Male Adult Smokers	22	22	17	61
Female Adult Smokers	13	11	16	40
Male Teen Smokers	20	18	16	54
Female Teen Smokers	17	16	17	50
Male Teen Non-Smokers	23	11	22	56
Female Teen Non-Smokers	10	22	11	43
Total	105	100	99	304

In Toronto, 153 people were recruited between August 5 to August 10. One hundred and five were interviewed, and two arrived after hours and were paid without completing survey. Thirty-one percent of those recruited did not appear. Interviews were conducted August 9 and 10, 1999, in the offices of the Environics Research Group.

In Mississauga, 150 were recruited between August 9 and August 12. One hundred were interviewed, and 33 percent of those recruited did not appear. Interviews were conducted August 12, 1999, in the offices of Infoquest Research Corporation, a centrally located focus group facility.

In Kitchener, 110 were recruited between August 14 and August 17. Ninety-nine were interviewed, and 10 percent did not appear. Interviews were conducted August 17, 1999, in the offices of Metroline Research Group, a centrally located focus group facility.

Most of the participants for these three cities were recruited by intercept interviews in high traffic flow areas, including major shopping centres, major intersections and streets, and public transit stations. Approximately 90 percent of smokers had been seen to be smoking by the recruiters before being recruited for the survey.

Copies of the Recruiting Screeners, Confirmation Screeners, and Interviewer Instructions follow.

Pn4531 - Recruit Screener

Hello— The Environics Research Group is conducting a survey next week. If you'd like to participate in this or other paid surveys, I'd like to know a bit more about you.

Name _____

Address _____

Please circle one: Male Female   Year of Birth _____

Best telephone number to reach you in the evening?_____

Best day telephone number?(in case of a scheduling change)_____

Occupation (including part Time) _____
(If unemployed, please enter the most recent occupation.)

Do you use the Internet regularly at your home?   Yes   No

Do you smoke cigarettes?   Yes   No

If yes, how many cigarettes do you usually smoke per day?_____

The Environics Research Group is conducting a survey at (Name of Location)
        Are you available to do a survey on (Dates). We need to book 45 minutes
        of your time. We just need to call you back to confirm a time for you to
        participate and give you the exact location. Participants are paid $30 for
        the 45 minutes.

Monday August 9, 1999	Tuesday, August 10,1999
Best time:	Best time:
2nd best time:	2nd best time:

Comments:
_____

_____

Confirmation Screener

TIME OF APPOINTMENT: _____

Circle one: TEEN NO SMOKE   TEENSMOKE   ADULTSMOKE

NAME _____

PARENT'S PERMISSION   Y   N
PARTICIPANT CONFIRMED   Y   N

ANSWERING MACHINE: Hi, this is Environics calling about the survey that we
would like to pay you to complete. Please call Francesca Burke at (416) 920-
3506 extension 251, and leave your name and number. Thanks.

IF UNDER 16:

Hello, could I please speak to _____? My name is _____, and I'm calling to
confirm a time for you to do a survey with the Environics Research Group. I'm
going to go over the details with you and then get your parent's permission, if
your parent wishes.

IF 16 OR OVER:

Hello, may I please speak to _____? My name is _____, and
I'm calling to confirm a time for you to do a survey with the Environics Research
Group.

I just need to check:

Do you use the Internet at home?
Do you smoke cigarettes? Y   N

About how many cigarettes do you smoke per day? (Teens must smoke 7 per
week, adults 10 per day.)_____

IF NOT QUALIFIED, SAY A SUPERVISOR WILL CALL YOU BACK.

IF QUALIFIED:

You indicated that _____ was the best time for you, and I can
confirm that time for you.
You'll be arriving at _____, and we need you to be prepared to stay until
_____(add 45 minutes onto the start time). If you arrive on time, we'll
probably be able to get you out in about 30 minutes or less.

Sample Address Instructions:

The address is 33 Bloor St. E Suite 900
Directions are:

From the intersection of Yonge and Bloor, go east on Bloor for a few buildings.
33 Bloor is identified as the "Xerox Building" by a sign on top of the building.
There are two Metro Parking lots one street south at Yonge and Hayden. The
closest TTC stops are Yonge and Bloor. Environics is on the 9th floor.

Please be sure to be on time! If you are going to be late, please call (416) 920-
3506 extension 251 to let us know. We will do our best to reschedule you for a
bit later.

Results of Quebec Interviewing

			Montreal Island	Montreal suburbs	Trois-Rivières	Total
Male	Adults	Smokers	18	17	14	49
Female	Adults	Smokers	16	18	20	54
Male	13-15	Smokers	7	6	7	20
Female	13-15	Smokers	13	7	13	33
Male	16-20	Smokers	7	8	4	19
Female	16-20	Smokers	7	10	10	27
Male	13-15	Non-smokers	9	9	7	25
Female	13-15	Non-smokers	8	8	11	27
Male	16-20	Non-smokers	9	10	7	26
Female	16-20	Non-smokers	12	10	8	3
Total			106	103	102	311

In Montreal (Island and suburbs), 278 people were recruited; 69 (25%) of them did not show up. Recruiting was done during August 16th to August 23rd, and the interviews were conducted August 23-26, 1999. The interviews were conducted in the offices of CROP Inc.

In Trois-Rivières, 135 people were recruited and 33 (24%) did not show up. Recruiting took place the week prior to the interviews, which were conducted on the 27th and 28th of August, 1999 in a centrally located major hotel.

Most of the participants for the survey were recruited by intercept interviews on the streets: downtown Montreal (Square Berri, Place d'Armes, Parc Lafontaine, Vieux Port, etc.) and Trois-Rivières (parks, cinema entrances and exits, etc.). Some contacts were done in the metro stations (Longueuil, Île-Saint-Hélène and Henri-Bourassa) and by telephone, mainly to recruit teens residing in suburban areas.

Copies of the Recruiting Screeners, Confirmation Screeners, and Interviewer Instructions follow.

Questionnaire de dépistage

Bonjour/Bonsoir, la maison de sondage CROP est à planifier un sondage auprès des jeunes (des adultes de votre région) la semaine prochaine. Aimeriez-vous prendre part à un tel sondage ou d'autres sondages pour lesquels on offre un dédommagement monétaire?(si ou) j'amerais vous poser quelques question.

NOM _____

ADDRESSE_____

Veuillez encercler: Homme 1   année de naissance: 19___
                        Femme 2

Numeró de téléphone où l'on peut le plus souvent vous rejoindre
En soirée:_____
Pendant la journée:_____
Occupation (incluant le temps partiel)_____
(si sans emploi, indiquer l'emploi le plus récent)
Quel est le dernier niveau d'étude que vous avez complété?_____
Utilisez-vous régulièrement Internet chez vous?   Oui   1
                                                         Non   2

Fumez-vous la cigarette: Oui   1
                                                         Non   2

(si oui) Environ combien de cigarettes fumez-vous habituellement par jour?

_____cigarettes

CROP effectue une étude par sondage dans ses bureaux du centre-ville, soit au 500 Place d'Armes, près du métro du même nom. Seriez-vous disponible pendant une heure entre 8h00am et 20h00pm les 23, 24, 25, ou 26 août pour prendre part à ce sondage? Les répondants de ce sondage reçoivent 30$ pour leur participation, ce qui demande environ 45 minutes.

HORAIRE PRÉFÉRÉ:_____

2ieme CHOIX D'HORAIRE:_____

Questionnaire de confirmation

HEURE DU RENDEZ-VOUS _____

Veuillez encercler : Jeune non fumeur   Jeune fumeur   Adulte fumeur

NOM_____

PERMISSION DU PARENT   oui   non
PARTICIPANT CONFIRMÉ   oui   non

(SI BOÎTE VOCALE) : Laisser message de confirmation habituelle. Leur demander de nous rappeler en laissant leurs noms et numéros de téléphone.

SI 14 ANS ET MOINS :

Bonjour/Bonsoir, pourrais-je parler à _____? Mon nom est _____ de CROP inc. Je vous appelle afin de confirmer votre présence à nos bureaux pour compléter un questionnaire. Je vais vous poser quelques questions puis demander l'accord d'un de vos parents.

SI 14 ANS ET PLUS :

Bonjour/Bonsoir, pourrais-je parler à _____? Mon nom est _____ de CROP inc., je vous appelle afin de confirmer votre présence à nos bureaux pour compléter un questionnaire.

Voici quelques questions à des fins de vérification :

Utilisez-vous Internet à la maison?   oui   non
Fumez-vous la cigarette?   oui   non

Combien de cigarettes fumez-vous par jour? (les jeunes doivent fumer un minimum de 7 cigarettes par jour, les adultes, 10). _____

SI ÉLIGIBLE :
Vous nous avez fait mention dernièrement que _____ était le moment vous convenant le mieux et nous le confirmons.

Vous arriverez donc à la Salle des Récollêts de l'hôtel BestWestern à _____, et vous quitterez aux alentours de _____ (ajouter 45 minutes au temps d'arrivée). Si vous arrivez à l'heure précise de votre rendez-vous, vous serez en mesure de quitter dans la prochaine demi-heure.

Appendix G:
Attendant Instructions - English

1. Greet respondent and **take note of** which Sample Group she/he is in.
   Teens who smoke   Study Filename = ETSMOKE/FTSMOKE
   Teens who do not smoke   Study Filename = ETNOSMK/FTNOSMK
   Adults who smoke   Study Filename = EASMOKE/FASMOKE

2. Seat respondent in front of the computer – affirm that they know how to use a mouse to point and click with the left mouse button.

> (If subjects have no mouseing experience show them, how to move the pointer around on the screen – by having them point at different locations. Then show them the left mouse button – have them click on the START button to show how clicking executes actions. Then have them click on a blank part of the desktop to put the start menu away.

> When you are confident the respondent is comfortable with and understands how to point and click then start the study.

3. Tell the respondent that they will read all questions on the screen. Then they will answer by positioning the pointer on the answer of their choice and clicking the left mouse button. You will be nearby to help them if they have questions.

> Also tell them, that "if they are the least bit uncertain about what the question is asking they should ask for further explanation".

START THE STUDY

4. DOUBLE-CLICK on the "Run Sensus Q&A 2.0" - ICON.

5. Position pointer on the CORRECT STUDY FILENAME for the respondents sample group (EASMOKE/FASMOKE, ETNOSMK/FTNOSMK or ETSMOKE/FTSMOKE), so that it has the 'blue background".

6. Then reposition the pointer on the "RUN" button in the lower left corner of the 'Run Study' Window, and click once.

7. When the cover page appears tell the respondent, - "Please read this screen and when you are ready to start CLICK the START button".

> (Observe as they proceed, {without being to obvious that you are watching them} and if needed help them.).

If for some reason a respondent gets started with the WRONG study filename, you can abort the questionnaire by holding down the CTRL key and simultaneously pressing the END key. Then inform John Liefeld that the error occurred and move the subject to the next available interview station.

8. On the first screen after the Cover Page the Respondent ID Number will be displayed (and also on a couple of other screens later). With a pencil, draw a line through that Respondent ID number on the Interviewing Station "Control Sheet", making sure you are in the correct set of columns for the study which is being run.

9. After a number of screens (the number varies depending on which version is being run), a screen appears telling the respondent NOT to click on the "Next" button, and to call you to his/her side. You take control of the mouse –

> Click on the Next Button, and a window will appear in which you choose the correct version of the Tradeoff program to run.

> Point to and click once on the CORRECT study name, which will be the same study name that the subject started with. The names are the same (EASMOKE/FASMOKE, ETNOSMK/FTNOSMK and ETSMOKE/FTSMOKE).

> Then when the correct study name is highlighted with the blue background, click on the "RUN" button at the bottom of the window.

> Give control of the mouse back to the respondent.

10. After the introductory screen, the first task is to rank the importance of different sizes of warning messages. The instructions tell them to click on its 'Red Letter'. When they do – that choice will disappear from the screen. Then they indicate the 2nd most important choice by clicking on its "Red Letter" (Actually they can click anywhere within the "textbox")

> When they have had enough time to read the instructions, INTERVENE and ask if they understand 'what the question is asking them to do'. If they exhibit uncertainty explain, that:

> The choices are between 3 sizes of warning messages that could be used on cigarette packages.

> You are being asked to decide, which SIZE of warning message would "encourage you more to stop (or not start) smoking".

You first click on the red letter of the alternative that would encourage you more to stop (not start) smoking. It will disappear from the screen.

Then decide which of the remaining alternatives would be more encouraging to stop (not start) smoking, and click on its red letter.

Following are three more screens of the same type.

SPECIAL NOTE: If respondents (who smoke), say anything which suggests they are having difficulty with the task, during this or the subsequent questions - because they believe 'Warning Messages, OF ANY TYPE, will not influence them. Tell these respondents that they already told us that when did the earlier ranking question. Now they are being asked, a different question - to judge alternatives and decide which alternative would influence them 'MORE' not if the alternative would influence them.

11. Then they are shown two alternatives and asked HOW IMPORTANT the DIFFERENCE between the two alternatives is, 'with respect to encouraging them to stop / not start smoking'. They answer by clicking on a number button on the bottom of the screen.

When the respondent has had sufficient time to read the instructions on the first of these screens – INTERVENE, and ask they if they understand what they are being asked to do. If they exhibit any uncertainty, explain as follows.

Two alternative sizes of warning messages on packages are shown.

Your task is to decide HOW IMPORTANT the DIFFERENCE between the two alternatives is – WITH RESPECT TO ENCOURAGING YOU TO STOP (NOT START) SMOKING.

If the DIFFERENCE is very important click on button 4.

If the Differences not at all important , click on Button 1.

Four screens of this type will be shown

12. Now you really get to work. The next 12 screens will display two cigarette packages – each described by FOUR attributes. Warning Message Size, Presence/Absence of Trade-mark, Warning Message (one of 4), and Picture/ no picture with the warning Message. Each text box has a red letter. Read the code for each package from the TOP DOWN e.g A1B1 or C2D1.

First, after they have had sufficient time to read the instructions on the screen INTERVENE and ask if they understand what they are being asked to do. If they are the least bit uncertain, explain:

Two cigarette packages are described on the screen. I am going to place photographs of the two packages on the keyboard.

Your FIRST task is to decide which package would encourage you more to stop (not start) smoking.

Secondly, when you have decided which package would encourage you more to stop (not start) smoking, then decide how much more it would encourage you - WEAKLY more encouraging; MILDLY more encouraging; or STRONGLY more encouraging.

If the package on the left is strongly more encouraging (compared to the package on the right), click on #1, If it mildly more encouraging click on #2 or if it is only weakly more encouraging click on #3.

If the package on the right is strongly more encouraging (compared the package on the left), then click on #6, If it is mildly more encouraging click on #5 and if it is only weakly more encouraging on #4.

(As you describe, physically point to the package descriptions, and then point to the words and numbers on the scale.

Now I will show you photographs of the two packages described on the screen.

A) In the picture file box, locate the CODE number for the Package on the Left of the screen, remove the picture from the box and place it on the key board under the package 1 description on the left side of the screen. Keep a finger at the spot in the file box where you withdrew the picture, to be able to return the picture to the same slot).

B) Next read the CODE for package 2 on the Right side of the screen, find the correct picture in the file box, and place it on the key board under the description of Package 2 on the right side of the screen

C. When the subject clicks on a number, remove the pictures from the keyboard and place them back into the places you have been holding open for them in the picture file box.

D. The screen will have changed showing TWO NEW PACKAGES – Read their code numbers and follow steps A – to - D again.

Twelve (12) sets of pairs of packages will be shown.

13. After the 12th pair, the next screen tells the respondent they will now go on to Part 3. When the respondent clicks on the right arrow button control will be returned to the first program and Q&A will continue.

14. At the "THANK YOU SCREEN" we do not want the respondent to click on the NEXT button (which is in the top right hand corner and has no words on it). Take control of the mouse at that point. Thank them personally, and remove them from the interviewing station. Then you return to the station, click on the NEXT button (top right hand corner of the screen), and the COVER page will appear. Click on QUIT to exit the program, thus preparing the machine for a new respondent which could be any of the three types.

Appendix H
Attendant Instructions – French

1- Accueillir le répondant et **prendre note** du groupe auquel il appartient :

       Adolescent fumeur   Nom du groupe : ETSMOKE

       Adolescent non fumeur   Nom du groupe : ETNOSMK

       Adulte fumeur   Nom du groupe : EASMOKE

2- Installez le répondant devant l'ordinateur- Assurez-vous que celui-ci sait comment utiliser la souris pour pointer sur les icones avec le bouton gauche.

> (Si le répondant ne sait comment utiliser la souris, informez - le sur la façon adéquate d'utilisation en amenant la souris au centre de l'écran et faites - le pointer à différents endroits. Ensuite, faites-le « cliquer » sur DÉMARRER (START) et indiquez - lui quelques actions à exécuter. Finalement, amenez - le à sortir de ce menu en « cliquant » dans un espace vide du « desktop ».)

> Débutez l'étude dès que vous sentirez votre répondant assez confortable avec l'utilisation de la souris.

3- Informez votre répondant qu'il doit lire toutes les questions apparaissant à son écran. Il devra répondre aux questions en pointant sur la réponse de son choix et en « cliquant » à l'aide du bouton gauche de la souris. Vous devez être disponible pour répondre aux questions du répondant.

> Également, vous devez l'informer qu'à la moindre hésitation quant à la compréhension d'une question, il peut vous demander de l'information.

DÉBUTER L'ÉTUDE

4- Double « cliquez » sur l'icône : *« Run Sensus Q&A 2.0 »*

5- Positionnez le curseur sur LE GROUPE D'ÉTUDE auquel appartient le répondant, i.e. EASMOKE, ETNOSMK ou ETSMOKE pour qu'il apparaisse sur fond bleu.

6- Positionnez le curseur sur le bouton « RUN » en bas à gauche de la fenêtre « Run Study » et « cliquez » une fois.

7- Lorsque la page couverture apparaîtra à l'écran, dites au répondant : « Lisez le texte et « cliquer » sur le bouton START lorsque vous serez prêt à commencer »

(Observez comment votre répondant procède, sans qu'il soit trop évident que vous l'observiez, et soyez disposés à l'aider.)

Il est possible que, pour une quelconque raison, le répondant débute l'étude avec un groupe d'étude ERRONÉ. Dans le cas échéant, il est possible de purger le questionnaire en pressant simultanément les touches CTRL et END. Vous devrez aviser John Liefeld de cette erreur et déplacer votre répondant à un autre ordinateur.

8- Sur la page suivant la page couverture, le numéro d'IDENTIFICATION du répondant apparaîtra (ainsi qu'à quelques autres des pages suivantes). À l'aide d'un crayon, rayez le numéro d'IDENTIFICATION du répondant sur la page de contrôle au poste de l'interviewer. Assurez-vous que vous êtes bien dans la colonne appropriée de l'étude en cours.

9- À la suite du déroulement de quelques pages (le nombre peut varier selon la version utilisée), une page apparaîtra, indiquant au répondant de NE PAS « cliquer » sur le bouton « NEXT » et de vous appeler. Vous devrez alors reprendre le contrôle de la souris.

   « Cliquez » sur le bouton « NEXT », une fenêtre apparaîtra et vous devrez alors choisir la version du programme à exécuter.

   Pointez et « cliquez » une fois sur le nom CORRECT de l'étude, les noms de groupes seront les mêmes (EASMOKE, ETNOSMK ET ETSMOKE).

   Lorsque que le bon nom d'étude sera sur fond bleu, « cliquer » sur le bouton « RUN » au bas de l'écran.

   Redonnez le contrôle de la souris au répondant.

10- Après l'introduction, la première tâche du répondant est de classer par ordre d'importance les différents messages d'avertissement. Les instructions indiquent au répondant de « cliquer » sur la « lettre rouge ». Ce choix disparaît lorsqu'il est choisi par le répondant. Ensuite, il doit indiquer quel est son second choix, toujours en « cliquant » sur la lettre rouge. (Il est possible également de choisir l'item en « cliquant » n'importe où dans la boîte de texte).

   Lorsque le répondant aura eu assez de temps pour lire les instructions, vous devez INTERVENIR et lui demander s'il comprend bien « ce que la question lui demande d'exécuter ». S'il manifeste une incertitude, expliquez ainsi :

« Devant vous figurent 3 messages d'avertissement de
tailles différentes pouvant figurer sur les paquets de
cigarettes.

Nous vous demandons de choisir la TAILLE de message
d'avertissement pouvant vous inciter davantage à cesser
(ou à ne pas commencer) de fumer. »

« Vous devez « cliquer » sur la lettre rouge de votre choix i.e.
celui pouvant vous inciter davantage à ne pas fumer (ou à ne
pas commencer), et celui-ci disparaîtra de l'écran.

Ensuite, indiquez votre autre choix en suivant la même
procédure, i, e. en « cliquant » sur la lettre rouge. »

Les trois prochaines questions seront du même genre.

ATTENTION : Si des répondants (fumeurs) mentionnent qu'il est difficile pour
eux de faire un choix lors de cette exercice ou lors de n'importe quelles autres
tâches, et ce- _parce qu'ils croient que les « messages d'avertissement » peu_
importe le type, ne peuvent les influencer, vous devez leur dire que, bien qu'ils
vous l'ait mentionné précédemment, vous leur demandez de faire un choix qui
pourrait les influencer **DAVANTAGE** et non si cela pourrait les influencer.

11- Après avoir effectué ses deux choix, le répondant sera appelé à déterminer
le DEGRÉ D'IMPORTANCE de la DIFFÉRENCE entre les deux, et ceci, en
tenant compte du fait que cela l'inciterait à cesser/ne pas commencer de fumer. Il
doit répondre en « cliquant » sur un chiffre au bas de l'écran.

Lorsque le répondant aura eu assez de temps pour lire les
instructions, vous devez INTERVENIR en lui demandant s'il
comprend bien « ce que la question lui demande d'exécuter ». S'il
manifeste de l' incertitude, expliquez ainsi :

« Deux choix de format de messages d'avertissement
sont présentés.

« Votre tâche consiste à déterminer le DEGRÉ
D'IMPORTANCE de la DIFFÉRENCE entre ces deux
options, EN TERME DE LA MESURE DANS
LAQUELLE CELA VOUS INCITERAIT À CESSER
(NE PAS COMMENCER) DE FUMER.

Si la DIFFÉRENCE est très importante, vous devez
« cliquer » sur le bouton 4.

Si les différences ne sont pas du tout importantes,
« cliquer » sur le bouton 1.

Les 4 prochaines questions seront du même genre.

12- Votre tâche de coach débute dès lors . Les 12 prochaines questions
exposeront 2 paquets de cigarettes- ceux-ci seront définis par 4 attributs : le
format du message d'avertissement, l'absence/présence de la marque de
commerce, le message d'avertissement (1des 4) ainsi que
l'absence/présence d'une photo avec le message d'avertissement. Chacune
des boîtes de textes ont une lettre rouge. Lisez le code de chaque
regroupement à partir du haut vers le bas e.g A1B1 ou C2D1.

Lorsque le répondant aura eu assez de temps pour lire les
instructions, vous devez INTERVENIR et lui demander s'il
comprend bien « ce que la question lui demande d'exécuter ». S'il
manifeste une incertitude, expliquez ainsi :

« Deux paquets de cigarettes sont décrits à votre écran. Je
vais installer des photos des 2 paquets sur le clavier.

« Votre tâche consiste à décider lequel des deux paquets
vous inciterait davantage à cesser/ne pas commencer de
fumer.

« En second lieu, lorsque votre choix sera fait, veuillez
décider à quel point il vous y inciterait. i,e. vous inciterait
FAIBLEMENT, MOYENNEMENT, OU FORTEMENT.

« Si le paquet de gauche vous y inciterait plus fortement que
celui de droite, « cliquer » sur #1, si il vous y inciterait
moyennement, « cliquer » sur #2 et si il vous y inciterait
faiblement, « cliquer » sur #3.

« Si le paquet de droite vous y inciterait plus fortement que
celui de gauche, « cliquer sur #6, si il vous y inciterait
moyennement, « cliquer » sur #5 et si il vous y inciterait
faiblement, « cliquer » sur #4.

(Lorsque vous donnerez ces indications, montrer leur
concrètement de quoi vous parler en pointant sur les chiffres
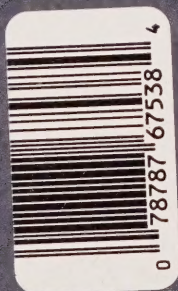et les mots de l'échelle).

« Je vais maintenant vous montrer les photos des deux
paquets décrits à votre écran.

A- Dans la boîte de photos, localisez le numéro du CODE du paquet de gauche (il est à gauche sur l'écran), sortez la photo de la boîte et placez-la sur le clavier sous la description du paquet 1 décrit à la gauche de l'écran. Gardez un doigt à l'endroit où vous avez retiré la photo de la boîte afin de pouvoir la remettre au bon endroit.

B- Ensuite, faites de même pour le CODE du paquet de droite (il est à droite sur l'écran), sortez la photo et placez-la sur le clavier sous la description du paquet 2 décrit à la droite de l'écran.

C- Lorsque le répondant aura « cliqué » sur un numéro, ôtez les photos et replacez-les dans la boîte.

D- L'écran va exposer 2 NOUVEAUX PAQUETS- Lisez les numéros de codes et reprenez les étapes de A à D.

12 paires de paquets seront présentées.

13- À la suite de la présentation de la douzième paire de paquet, la prochaine page avisera le répondant de la troisième partie du questionnaire. Lorsque celui-ci aura « cliqué » sur la flèche de droite, le programme retournera au début et Q&A se poursuivra.

14- À la THANK YOU SCREEN, (page de remerciement), nous ne voulons pas que le répondant « clique » sur le bouton NEXT, (il est tout en haut, dans le coin droit et aucun mots n'y figurent). Vous devez reprendre le contrôle de la souris. Remerciez le répondant et reconduisez-le à l'entrée. Retournez à l'ordinateur, « cliquez » sur le bouton NEXT (tout en haut dans le coin droit de l'écran), et la PAGE COUVERTURE apparaîtra. « Cliquez » sur QUIT pour sortir du programme afin de préparer l'ordinateur pour un nouveau répondant.

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